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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,163	07/30/2001	Sunghyun Choi	US 010342	2123

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c/o PHILIPS ELECTRONICS NORTH AMERICA CORPORATION  
Corporate Intellectual Property  
PO BOX 3001  
Briarcliff Manor, NY 10510

EXAMINER

CHUNG, PHUNG M

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,163

Applicant(s)

CHOI, SUNGHYUN

Examiner

Phung My Chung

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE dated on 11/19/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6-8 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sipola (WO 0045543).

As per claims 1 and 6-7, Sipola discloses the invention substantially as claimed, comprising the steps of:

- a) transmitting a sequence of packets from a source node to a destination node;
- b) determining whether at least one of the plurality of the data blocks (header blocks) within a particular packet is lost in the transmission;
- c) storing other header blocks that are successfully received within the particular packet in a storage medium for subsequent retrieval;
- d) subsequently transmitting a request for retransmission of the particular packet containing the lost header block to the source node; and
- e) combining the stored header blocks with the lost header block retrieved from the subsequent transmission in sequential order, wherein when the retransmission of the particular packet contains a lost header block, transmitting a request for retransmission to the source node only when a complete packet cannot be formed by the combining of the stored header blocks and the retransmitted header blocks of the particular packet. (See Fig. 3, pg. 11, line 34 to pg. 13, line 31). Sipola does not disclose that the data blocks are payload blocks. However, it would have been a mater

of design choice to a person of ordinary skill in the communication art, at the time the invention, to set the data blocks as payload blocks. This is because Sipola discloses that the invention may vary within the scope of the attached claims (pg. 19) and Sipola also discloses that the transmitted data in the header blocks can be checked and corrected by transmitting and retransmitting of the original header blocks so that data in the payload blocks can also be checked and corrected like the header blocks as desired if needed.

As per claims 8 and 14, these claims are also rejected under the same rationale as set forth in claims 1 and 6-7.

As per claims 15-16, these claims are also rejected under the same rationale as set forth in claim 1.

3. Claims 2-5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sipola (WO 0045543) as applied to claims 1 and 6-8 above, and further in view of Choi et al ("A class of adaptive hybrid ARQ schemes for wireless links" IEEE, vol. 50, No. 3, May 20010).

As per claims 2-5, the teaching of Sipola has been discussed above. Sipola does not disclose the steps of monitoring and identifying erroneous received data blocks during transmission and performing error correction to recover the lost data blocks and if the error correction fails performing the steps © through (e). however, Choi et al disclose a hybrid of FEC and ARQ detect and correct data blocks errors and if the errors are uncorrectable, retransmission of the packet is requested. (See pg. 778, col. 2, section A. A hybrid of FEC and ARQ to pg. 779, line 10). Therefore, it would have

been obvious to a person of ordinary skill in the communications art, at the time the invention, to incorporate the hybrid of FEC and ARQ of Choi et al into the invention of Sipola so tha the lost data block can be corrected and if the errors are uncorrectable retransmission of the packet is requested.

As per claim 11, the teaching of Sipola and Choi et al have been discussed above. Futher Choi et al disclose a Reed-Solomon block coder.

As per claims 12-13, these claims are also rejected under the same rationale as set forth in claims 2-5.

4. Claims 17-19 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sipola (WO 0045543) as applied to claims 1, 8 and 15 above. And further in view of Kwon et al (6,594,262).

As per claims 17, 19 and 9-10, the teaching of Sipola has been discussed above, Sipola does not disclose a demodulator configured to receive and demodulate a modulated signal and a decoder operatively coupled to the demodulator for decoding the demodulated packets. However, Kwon et al disclose a demodulator coupled to receive and demodulate a modulated signal and a decoder operatively coupled to the delmodulator for decoding and correcting burst error. Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the demodulator that configured to receive and demodulate a modulated signal and a decoder operatively coupled to the demodulator for decoding the demodulated packets of Kwon et al into the invention of Sipola so that burst error can be corrected. (See col. 1, lines 50-60).

As per claim 18, the teaching of Sipola and Kwon et al had been discussed above. Kwon et al further disclose an error correction means for performing error correction to recover the erroneously received data blocks. (See col. 3, lines 16-23).

5. Applicant's arguments filed on 7/22/04 have been fully considered but they are not persuasive because:

Applicant argues that claims 1 and 8 have been amended to clarify that instead of a mere "combining" of packets, the portions of the successfully received first packet are combined with the retransmitted portions that were previously in error.

The reuse of correctly received RS code blocks to combine with the retransmitted portions that were previously received with error permits greater efficiency in packet loss correction rather than merely combining the contents of a request and retransmission system, resulting in greater efficiency than known heretofore.

Examiner disagrees with applicant because it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to combine the portions of the successfully received first packet with the retransmitted portions that were previously in error for greater efficiency in packet loss correction. This is because Sipola already teaching adding (combining) at least one header of an earlier transmission of the block in a sequence transmitted block with the data block to be retransmitted. (See abstract).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung My Chung whose telephone number is 571-272-3818. The examiner can normally be reached on Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phung My Chung  
Primary Patent Examiner  
Art Unit 2133